



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 902,034	07/10/2001	Brian W. Connor	003B.00020.U1(US)	7786

29683 7590 01/14/2004

HARRINGTON & SMITH, LLP
4 RESEARCH DRIVE
SHELTON, CT 06484-6212

EXAMINER

MAYO III, WILLIAM H

ART UNIT	PAPER NUMBER
----------	--------------

2831

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,034

Applicant(s)

CONNOR ET AL.

Examiner

William H. Mayo III

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7-17, 19, 21, 24 and 26-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 7-12, 15-17 and 19 is/are allowed.
- 6) ☒ Claim(s) 13, 14, 21, 24 and 27-30 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *Copies of detailed references*.

DETAILED ACTION

Withdrawal of Last Rejection

1. Based on the improperly executed of the last office action mailed July 3, 2003, the last rejection is vacated. A properly executed non-final rejection follows below.

Allowable Subject Matter

2. Applicant is advised that the Notice of Allowance mailed February 14, 2003 is vacated in view of the reference(s) to Levinsky (Pat Num 3,354,517). If the issue fee has already been paid, applicant may request a refund or request that the fee be credited to a deposit account. However, applicant may wait until the application is either found allowable or held abandoned. If allowed, upon receipt of a new Notice of Allowance, applicant may request that the previously submitted issue fee be applied. If abandoned, applicant may request refund or credit to a specified Deposit Account.
3. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2831

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 13-14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schrader (Pat Num 5,200,576) in view of Burndy Electrical, a technical data sheet describing the YH3429 Connector (herein referred to as Burndy). Schrader discloses an electrical compression connector (Figs 1 & 4) for securing at least three conductors or cables in place (abstract). Specifically, with respect to claim 13, Schrader discloses an electrical compression connector (10) comprising a first section (upper half of 12) having a first conductor receiving channel (18) extending into a top side of the connector (10) and a second section (lower half of 12) integrally formed with the first section (upper half of 12), wherein the second section (lower half of 12) has a second receiving channel (26) and a third receiving channel (28) extending into opposite respective first and second lateral sides (left and right sides respectively) of the connector (10), wherein the second conductor receiving channel (26) comprises opposing concave surfaces (denoted in red by 100 & 200) having different shapes (the top curved surface 100 is narrower than the bottom curved surface 200), wherein the

Art Unit: 2831

third conductor receiving channel (28) comprising two opposing concave surfaces (denoted in red by 600 & 700) and a side surface (denoted in red by 800) between the two opposing concave surfaces (600 & 700) having a round shape (Fig 4). With respect to claim 14, Schrader discloses that the second section (lower half of 12) further comprises a fourth conductor receiving channel (30) extending into the second lateral side (right side) of the connector (10), wherein the fourth conductor receiving channel (30) is located below the third conductor receiving channel (28), and wherein the fourth conductor receiving channel (30) comprises a curved top, bottom, and side surfaces having the same radius of curvature (Fig 4).

However, Schrader doesn't necessarily disclose the third receiving conductor channel comprising a side surface between the two opposing concave surfaces being substantially flat shaped (claim 13).

Burndy teaches a YH3429 Connector (Fig 2), that is known and commercially available for making parallel and tap connections, including combinations of copper Class 1 flexible stranding and code conductors (see interactive product catalog page). Specifically, Burndy teaches that the YH3429 connector (Fig 2) comprises a third connector receiving channel (denoted as Tap 1) comprising a side surface (see attached drawings detailing the area in red) between the two opposing concave surfaces (upper and lower surfaces in the second connector receiving channel) that has a substantially flat shaped portion for accommodating tap conductors in the range of 1/0 AWG to 250 Kmil (see interactive product catalog page).

With respect to claim 13, it would have been obvious to one having ordinary skill in the art of cable connectors at the time the invention was made to modify the connector of Schrader to comprise the third conductor receiving channel configuration comprising a side surface having a substantially flat shape portion as taught by Burndy because Burndy teaches that such a configuration is well-known for accommodating tap conductors in the range of 1/0 AWG to 250 Kmil and commercially available for making parallel and tap connections, including combinations of copper Class 1 flexible stranding and code conductors (see interactive product catalog page) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

7. Claims 13-14, 24, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrader et al (Pat Num 5,200,576, herein referred to as Schrader) in view of Levinsky (Pat Num 3,354,517). Schrader discloses an electrical compression connector (Figs 1 & 4) for securing at least three conductors or cables in place (abstract). Specifically, with respect to claim 24, Schrader discloses an electrical compression connector (10) comprising a first section (upper half of 12) having a first conductor receiving channel (18) extending into a top side of the connector (10) and a second section (lower half of 12) integrally formed with the first section (upper half of 12), wherein the second section (lower half of 12) has a second receiving channel (26) and a third receiving channel (28) extending into opposite respective first and second lateral sides (left and right sides respectively) of the connector (10), wherein the second

Art Unit: 2831

conductor receiving channel (26) comprises opposing concave surfaces (denoted in red by 100 & 200) having different shapes (the top curved surface 100 is narrower than the bottom curved surface 200) and a side surface between the two opposing concave surfaces (100 & 200 respectively) having a round shape (Fig 4), wherein the third conductor receiving channel (28) comprising two opposing concave surfaces (denoted in red by 600 & 700) and a side surface (denoted in red by 800) between the two opposing concave surfaces (600 & 700) having a round shape (Fig 4). With respect to claim 27, Schrader discloses that the second section (lower half of 12) comprises a width, which is larger than the width of the first section (top half of 12, Fig 4). With respect to claim 28, Schrader discloses that the opposing concave surfaces (100 & 200) having about the same width (Fig 4). With respect to claim 29, Schrader discloses that a top one of the opposing surfaces (denoted as 400) comprises an outer downward extending projection and a bottom one of the opposing surfaces (denoted as 300) comprises an upward extending tip, wherein the projection (400) and the tip (300) are located opposite each other (Fig 4).

However, Schrader doesn't necessarily disclose the second and third conductor receiving channels having side surfaces extending between the two opposing concave surfaces being substantially flat shaped (claim 24), nor the flat side surface extending more than a third of the total height of the second conductor receiving channel (claim 30).

Levinsky teaches an electrical connector (Figs 1-4) that overcomes the disadvantages of prior art connectors, such as complexity of cataloging, cost of

Art Unit: 2831

inventory maintenance, and delays on exhaustion of particular connector sizes, increasing of cost of manufacture and use (Col 1, lines 34-43). Specifically, with respect to claim 24, Levinsky teaches an electrical connector (Fig 1) having a body (10) comprising a first receiving conductor channel (14), a second receiving conductor channel (22), and a third receiving conductor channel (31), wherein the second and third conductor receiving channels (22 & 31) comprising side surfaces (denoted by 100) extending between the two opposing concave surfaces (upper and lower surfaces of 22 & 31) being substantially flat shaped (Fig 1). With respect to claim 30, Levinsky teaches that the flat surface portion (100) extends about a third of the total height (Fig 2) of the second conductor receiving channel (22).

With respect to claims 24 & 30, it would have been obvious to one having ordinary skill in the art of cable connectors at the time the invention was made to modify the connector of Schrader to comprise the second and third conductor receiving channels configuration comprising a side surfaces having a substantially flat shape portion as taught by Levinsky because Levinsky teaches that such a configuration overcomes the disadvantages of prior art connectors, such as complexity of cataloging, cost of inventory maintenance, and delays on exhaustion of particular connector sizes, increasing of cost of manufacture and use (Col 1, lines 34-43) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

Art Unit: 2831

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schrader et al (Pat Num 5,200,576, herein referred to as Schrader) in view of Applicant's Own Admission (herein referred to as AOA) in view of Levinsky (Pat Num 3,354,517). Schrader discloses an electrical compression connector (Figs 1 & 4) for securing at least three conductors or cables in place (abstract). Specifically, with respect to claim 21, Schrader discloses an electrical compression connector (10) and electrical conductor assembly (72, 74, 76, & 78) comprising a first generally U shaped section (area between legs 14 & 16, Fig 1) forming a first conductor receiving channel (18) and a second section (lower half of 12) integrally formed with the first U shaped section (area between legs 14 & 16, Fig 1), wherein the second section (lower half of 12) has a second receiving channel (26), wherein the second conductor receiving channel (26) comprises opposing first and second concave surfaces (denoted in red by 100 & 200, respectively) each of the concave surfaces (100) having a different radius of curvature (denoted in red as R_1 and R_2), wherein the second section (lower half of 12) has a bottom curved cantilevered leg (20 & 24) that forms the second concave surface (200), wherein any sized electrical conductor (not shown) may be located in the second receiving channel (26, Col 2, lines 13-15), wherein when the connector (10) is compressed onto the conductor (not shown), the leg (20) is deformed towards the first contact surface (100, Fig 4, Col 2, lines 19-26), wherein the second conductor receiving channel (26) comprises opposing concave surfaces (denoted in red by 100 & 200) having different shapes (the top curved surface 100 is narrower than the bottom curved surface 200) and a side surface between the two opposing concave surfaces (100 &

Art Unit: 2831

200 respectively) having a round shape (Fig 4), wherein the third conductor receiving channel (28) comprising two opposing concave surfaces (denoted in red by 600 & 700) and a side surface (denoted in red by 800) between the two opposing concave surfaces (600 & 700) having a round shape (Fig 4).

However, Schrader doesn't necessarily disclose the electrical conductor being a class K electrical conductor located in the second conductor-receiving channel (claim 21).

AOA teaches under the heading "Brief Description of Prior Developments", that class K conductors are commercially available and are commonly utilized in cable connectors because they are more flexible than Class I conductors (see Page 1 of specification, lines 27-28).

With respect to claim 21, it would have been obvious to one having ordinary skill in the art of cable connectors at the time the invention was made to modify the connector of Schrader to comprise a class K electrical conductor in the second conductor receiving channel as taught by AOA because AOA teaches that such a conductor is commercially available and is commonly utilized in cable connectors because they are more flexible than Class I conductors (see Page 1 of specification, lines 27-28).

Schrader also doesn't necessarily disclose the second and third conductor receiving channels having side surfaces extending between the two opposing concave surfaces being substantially flat shaped (claim 21).

Levinsky teaches an electrical connector (Figs 1-4) that overcomes the disadvantages of prior art connectors, such as complexity of cataloging, cost of inventory maintenance, and delays on exhaustion of particular connector sizes, increasing of cost of manufacture and use (Col 1, lines 34-43). Specifically, with respect to claim 21, Levinsky teaches an electrical connector (Fig 1) having a body (10) comprising a first receiving conductor channel (14), a second receiving conductor channel (22), and a third receiving conductor channel (31), wherein the second and third conductor receiving channels (22 & 31) comprising side surfaces (denoted by 100) extending between the two opposing concave surfaces (upper and lower surfaces of 22 & 31) being substantially flat shaped (Fig 1).

With respect to claims 21, it would have been obvious to one having ordinary skill in the art of cable connectors at the time the invention was made to modify the connector of Schrader to comprise the second and third conductor receiving channels configuration comprising a side surfaces having a substantially flat shape portion as taught by Levinsky because Levinsky teaches that such a configuration overcomes the disadvantages of prior art connectors, such as complexity of cataloging, cost of inventory maintenance, and delays on exhaustion of particular connector sizes, increasing of cost of manufacture and use (Col 1, lines 34-43) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

Art Unit: 2831

Allowable Subject Matter

9. Claims 1-4, 7-12, 15-17, and 19 are allowed.
10. Claim 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
11. The following is a statement of reasons for the indication of allowable subject matter: This invention deals with an electrical compression connector having a second radius of curvature that is about 25% smaller than the first radius of curvature (claims 1, 15, & 26). The above stated claim limitations, in combination with other claim limitations, is not taught or suggested by the prior art of record. Claims 2-4 and 7-12 are depended upon allowed claim 1 and claims 16-17 and 18 are depended upon allowed claim 15 and therefore are allowed.

Conclusion

12. Based on the new rejection, this action is non-final.


Communication

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (703) 306-9061. The examiner can normally be reached on M-F 8:30 a. m.-6:00 p.m.(alternating Friday's off).

Art Unit: 2831

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



WHM III
October 6, 2003